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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KENNETH D. TUCHMAN,
BRUCE A. SHARPE, and
HENRY D. TRUONG

Appeal 2014-009779
Application 13/213,002
Technology Center 3600

Before ANTON W. FETTING, JOSEPH A. FISCHETTI, and CYNTHIA L. MURPHY, *Administrative Patent Judges.*

FETTING, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE[1]

Kenneth D. Tuchman, Bruce A. Sharpe, and Henry D. Truong (Appellants) seek review under 35 U.S.C. § 134 of a final rejection of claims 1–25, the only claims pending in the application on appeal. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

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[1] Our decision will make reference to the Appellants' Appeal Brief ("App. Br.," filed June 11, 2014) and Reply Brief ("Reply Br.," filed September 11, 2014), and the Examiner's Answer ("Ans.," mailed July 16, 2014), and Final Action ("Final Act.," mailed February 26, 2014).

The Appellants invented a way of proactively predicting a subject matter of support services and a skill set. Specification para. 1.

An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below (bracketed matter and some paragraphing added).

> 1. A computer-implemented method for providing support services to users of products, the method comprising:
>
> [1] tracking,
>
> by a guided support identification system executed within a server representing a service center,
>
> user interaction of a user with a presentation of a self-support knowledgebase (KB) without involving a live support agent of the support center,
>
> while the user is navigating the presentation at a remote device during a user session of navigating the presentation,
>
> including periodically receiving signals from the remote device indicating the user interaction with the presentation at the point in time,
>
> the presentation describing a possible solution to a problem related to a product supported by the service center,
>
> wherein the service center provides support services for a plurality of products on behalf of a plurality of product providers;
>
> [2] predicting,
>
> by the guided support identification system,
>
> a subject matter of the product that the user is currently interested in based on the user interaction,
>
> wherein the subject matter is concurrently predicted while the user is navigating the presentation within the same user session of navigating the presentation;

[3] identifying,

by the guided support identification system,

one or more skill sets that are required to provide support services for the subject matter of the product,

wherein the one or more skill sets are concurrently identified while the user is navigating the presentation,

wherein tracking user interaction, predicting a subject matter, and identifying one or more skill sets comprise receiving a first signal from the remote device indicating that the user is accessing a first portion of the presentation,

in response to the first signal,

dynamically determining a first subject matter of the first portion of the presentation,

determining a first skill set that is required to handle the first subject matter,

receiving a second signal from the remote device indicating that the user is accessing a second portion of the presentation,

in response to the second signal, dynamically determining a second subject matter of the second portion of the presentation,

determining a second skill set that is required to handle the second subject matter,

wherein the first subject matter is a general subject matter and the second subject matter is a specific subject matter,

wherein

the first and second signals are received from the remote device

and

the first and second subject matters and skill sets are determined within the same user session of navigating the presentation;

and

[4] in response to a request received from the remote device requesting a live support after navigating the presentation,

establishing,

by a multi-channel communications and routing system running within the server,

a communications session between the user and an agent who qualifies the one or more skill sets

to enable the agent to provide live support services to the user.

The Examiner relies upon the following prior art:

Bauer	US 6,690, 788 B1	Feb. 10, 2004
Elias	US 2005/0288981 A1	Dec. 29, 2005
Galvin	US 2009/0171752 A1	July 2, 2009
Kohler	US 2010/0121672 A1	May 13, 2010

Claims 19–22 stand rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the invention.

Claims 1–6, 9–15, and 18–24 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Galvin, Elias, and Kohler.

Claims 7, 8, 16, 17, and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Galvin, Elias, Kohler, and Bauer.

Claims 1–25 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

ISSUES

The issues of indefiniteness turn primarily on whether it is necessary to use the word "means" for construction under 35 U.S.C. § 112, sixth paragraph. The issues of obviousness turn primarily on whether the art shows it was predictable to apply predictive technology to identify subjects of interest from customer interactions in a call center. The issues of statutory subject matter turn primarily on whether the claims are directed to more than abstract conceptual advice on gathering data for a call center.

FACTS PERTINENT TO THE ISSUES

The following enumerated Findings of Fact (FF) are believed to be supported by a preponderance of the evidence.

Facts Related to the Prior Art

Galvin

01. Galvin is directed to routing of transactions in contact center environments. Galvin, para. 1.

02. Galvin describes history-based predictive routing in which customer information along with past history regarding purchases, credit, preferences, satisfaction level at last contact, and the like are used to predict the type of product or service for the customer and the agent that might best be able to service that customer. For example, it may be known through past purchase history that a certain customer buys a computer every two years on the average. It has been 22 months since his last purchase, and he was discontented somewhat during the last contact which was a service call shortly after that last purchase. Using this information, the

system predicts that an agent specializing in servicing and selling Pentiums, with considerable conflict resolution skill would best handle that call. The customer may be queued for that agent even if an agent of similar but different skill set is available. *Id.* at para. 11.

03. Galvin determined that there are better ways of routing transactions in a call center than those used in the current art, and that routing may best be performed by taking into account expected profitability to be enjoyed by an enterprise hosing a contact center. Galvin describes steps of (a) identifying an initiator of a received transaction; (b) gathering information about the initiator of the transaction; (c) determining agents available to receive and service the transaction, and gathering information about the agents; (d) using the gathered information, determining a product or promotion; (e) forming combinations among the available agents, the initiator, and the products; (f) determining potential profit contribution or probability for individual ones of the combinations formed in step (e); and (g) selecting an agent to service the transaction based on the potential profitability determined in step (f). *Id.* at para. 16.

04. Galvin describes data about a customer arriving at a communication center ahead of an actual call. *Id.* at para. 26.

05. Many calls, for example, are sent to an IVR before being routed to an agent. Selecting calls arriving simultaneously in the IVR would not do much good, since routing occurs at the end of the IVR treatment and calls stay in the IVR for varying amounts of

time. What is needed is to consider calls coming out of the IVR and becoming available for routing to agents. *Id.* at para. 80.

Elias

06. Elias is directed to a customer support methodology which can be enacted with a combination of automated support solutions and support technicians for industries where there are services which relate to a customer's account(s). Its main purpose is the effective use and acquisition of data to better understand the customer, the product/service, and the support system in order to better handle support issues that have and could possibly happen. The innovation in customer support methodologies are established in key general areas: profiling, support session routing, authorization, verification, data convergence, data protection, communication, predictive analysis, government compliance, customer satisfaction, and preemptive actions. Elias, para. 3.

07. Elias describes a proactive approach to determining the vulnerability, security, compliance, effectiveness of usage, and overall customer satisfaction of a product/service with a minimal support staff. Elias uses Predictive Account Maintenance and Adaptive Support Reasoning to provide a system for analyzing events and the customer to provide automated methodologies for clarifying and acting upon knowledge of the customer, product, and system. This methodology increases the productivity and effectiveness of support personnel through a process of analyzing events and user interactions (with the system) to supply behavioral information to the support staff. The support staff then has the

ability to specify conditions in which the system must initiate communication to the user through automated telephony, email, or other communication methods and/or signal an analysis event within the system. The conditions can be generic, recognized patterns of activity, or a random sample of a specific set of accounts. *Id.* at para. 4.

08. Elias describes using automated assistance by which the consumer can perform many activities that previously can be done only with direct interaction with live customer support personnel. *Id.* at para. 5.

Kohler

09. Kohler is directed to managing customer service center resources by monitoring a network. Kohler, para. 1.

10. Kohler describes the need to identify potential skill needs in customer service center resources, search the network for needed skills in the customer service center, and change the customer service center based on potential needs. *Id.* at para. 2.

11. Kohler monitors the activity of customers, agents, and industry experts in a network for new topics relevant to my business and the interests in those topics. A determination is made automatically if there is enough interest to warrant adding a skill. If there is not enough interest, the system continues to monitor for topics and interests. If there is enough interest, the system automatically projects a resource needed for a skill. The system monitors internal resources and the network to determine if the resource needed for the skill exists in an internal resource. If the

resource needed for the skill exists in an internal resource, the skill is reallocated and agents are assigned. If the resource needed for the skill does exist in the internal resource, the system monitors the network for an external resource that has the skill. *Id.* at para. 3.

12. Kohler's topic identifier starts with a list of known customers, agents, industry experts, and the like. The topic identifier monitors the network for their conversations, posts, activities, etc. The purpose of the topic identifier is to discover new topics in the conversations that are related to the customer service center's business. A topic is typically a noun such as bicycle, telephone, car, and the like. However, a topic can be a quantitative measurement or why something happens. For example, a topic can be the number of friends that someone has, the number of is buddies in a buddy list, an event, and the like. Once identified, a new topic is passed to the interest monitor which monitors the network for interest. An interest can be a verb such as like, dislike, problem, disagree, and the like. An interest can be the increase and/or a decrease in conversations and/or activity about a topic and/or an interest. The resource manager is configured to determine if there is enough interest to warrant adding the skill. The resource manager determines if there is enough interest to warrant adding the skill based on rules. *Id.* at para. 14.

13. Kohler's resource manager determines if the resource needed for the skill exists in an internal resource. An internal resource can be any type of or combination of customer service center

resources, such as one or more agents that handle calls, an IVR system, a group, a network, a customer resource, an application, a worker in a warehouse, a sales representative, and the like. Determining if the resource needed for the skill exists could be accomplished in various ways. For example, the resource manager can scan profiles or resumes of agents to determine if any of the agents have any experience supporting the XYZ telephone. The resource manager can also direct the skill monitor to monitor the network for an internal resource that has the skill. If the resource needed for the skill exists in the internal resource, the skill is reallocated and agents are assigned. If the resource needed for the skill does not exist in the internal resource, the resource manager directs the skill monitor to monitor the network for an external resource that has the skill. Monitoring for an external resource that has a skill can be accomplished by identifying individuals who are discussing the skill on a website, by searching resumes on a job site, and the like. *Id.* at para. 17–18.

14. Kohler's resource manager notifies the work flow manager in the customer service center of the resource needed for the skill in the customer service center. The work-flow manager generates an event and changes the call flow in the customer service center by directing the IVR system to change the call flow in the IVR system. The call flow is how a call gets routed in an IVR system. For example, the user may hit *2 in a first menu to get routed to technical support for bicycles and then hit *3 in a second menu to get routed to a particular type of bicycle. The call flow can be

> changed by adding a new menu option for support of a new bicycle (e.g., *4 on the second menu). The IVR system can change the call flow for both inbound calls to the customer service center and outbound for calls from the customer service center. *Id.* at para. 23.

ANALYSIS

Claims 19–22 rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the invention

The Examiner rejects these claims because claim 19 recites "a guided support identification system, executed in the memory by the processor, to . . . ," which the Examiner construes according to 35 U.S.C. § 112, sixth paragraph, and finds no corresponding algorithmic structure in the Specification. Appellants do not argue that there is such structure or that the claim recitation following this phrase provides sufficient structure to overcome such a construction. Thus, such potential arguments are waived.

Appellants instead argue that because there is no phrase "means for" the limitation should not be construed as a means plus function limitation. App. Br. 15.

> The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. When a claim term lacks the word "means," the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to "recite sufficiently definite structure" or else recites "function without reciting sufficient structure for performing that function."

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1349 (2015) (citations omitted). Here the word "system" like the word "module" in *Williamson*, imparts no meaning of structure. The term "system"

> is simply a generic description for software or hardware that performs a specified function." Generic terms such as "mechanism," "element," "device," and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word "means" because they "typically do not connote sufficiently definite structure" and therefore may invoke § 112, para. 6.

Id. at 1350. The prefixes "guided," "support," and "identification" do not impart structure into the term "system." These words do not describe a sufficiently definite structure. Again, Appellants do not contend that the limitation recites sufficient structure for performing that function.

Claims 1–6, 9–15, and 18–24 rejected under 35 U.S.C. § 103(a) as unpatentable over Galvin, Elias, and Kohler

The Examiner finds that Galvin describes a conventional call center using interactive voice recognition software and so describes the first and last limitations of claim 1. The Examiner also cites Elias as confirming what is inherent in Galvin of the customer operating the software without intervention by a human prior to the call center reaching a support person. Galvin also describes predictive routing technology and how such data may arrive at a call center before the call itself. Final Act. 10–12. The issues then devolve to whether the art describes the prediction and identification of the second and third steps prior to the fourth step.

The Examiner finds that Elias describes predictive technology that automates the analysis of customer interactions to take a proactive approach

toward customer interaction. Thus Elias describes an implementation to meet the need described by Galvin for predictive technology in routing calls. This describes the second limitation of predicting subject matter while the customer is navigating prior to reaching a customer service person. Final Act. 12–15.

The Examiner finds that Kohler describes identifying required skill sets based on monitoring customer interaction as in Elias. *Id.* at 15–18. So the issues further devolve to whether the art describes the particular data recited being identified.

At this point, we find that this issue is somewhat degenerate for structural claims 10–22. Such claims must be distinguished from the prior art in terms of structure rather than function. *See, e.g.*, *In re Schreiber*, 128 F.3d 1473, 1477–78 (Fed. Cir. 1997). In order to satisfy the functional limitations in an apparatus claim, however, the prior art apparatus as disclosed must be capable of performing the claimed function. *Id.* at 1478. As Elias and Kohler describe generic analysis, their descriptions describes a capacity for identifying almost any information, and certainly for identifying generic and particular information regarding an arbitrary subject of interest.

As to the method claims, Kohler describes using both menu buttons and interaction analysis for routing. The menu button examples show a two tier generic and specific subject for bicycles. One of ordinary skill would immediately see this is equally applicable to the interaction analysis routing as well.

Separately argued claims 3–5, 12, and 13 recite limitations inherent in any user interface that by its nature loops through the code while waiting for input.

As to separately argued claims 6, 9, 23, and 24, we are persuaded by Appellants' argument that the Examiner fails to present findings as to specific limitations added in these claims.

The remaining claims are not separately argued.

Claims 7, 8, 16, 17, and 25 rejected under 35 U.S.C. § 103(a) as unpatentable over Galvin, Elias, Kohler, and Bauer

As to claims 7, 8, 16, and 17, we are persuaded by Appellants' argument that Bauer fails to describe transmitting a query to the remote device to prompt the user for input wherein the query is generated based on the user interaction and the presentation being navigated. App. Br. 28–29.

As to claim 25, we are not persuaded by Appellants' argument that Bauer fails to describe the particular table recited. *Id.* at 33. Bauer describes using look up tables for similar types of processing, and the notoriety of such table would make it predictable for one of ordinary skill to apply them as an implementation for Kohler' matching.

Claims 1–25 rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter

The Examiner finds that the claims are directed to the idea of providing support services to users of products and that this is a fundamental economic practice. The Examiner then finds that the additional limitations

> amount(s) to no more than: (i) mere instructions to implement the idea on a computer, and/or (ii) recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry. Viewed as a whole, these additional claim element(s) do not provide

> meaningful limitation(s) to transform the abstract idea into a patent eligible application of the abstract idea such that the claim(s) amounts to significantly more than the abstract idea itself.

Ans. 27–28. We agree and adopt these findings.

> We are not persuaded by Appellants' argument that the claims
>
> include specific limitations that clearly improve the efficiency of a support center or call center and improve customer's satisfaction by monitoring a customer's interaction with the content presentation, dynamically determining what the customer is currently accessing, and determining a skill set that is required to provide support for the subject matter the customer is currently interested in. The invention as claimed clearly improves the intelligent routing of the potential support calls that may be received at a call center.

Reply Br. 3. This is a common line of argument that overlooks the fact that abstract ideas employed as generic advisory concepts frequently improve efficiencies and improve operations. The issue is whether these advisory concepts are then drafted into concrete technological implementations based on those concepts. Put another way, do the limitations do more than recite the desired outcome by also reciting the implementation for realizing such outcome. The limitations of claim 1 are (1) tracking user interaction; (2) predicting subject matter of interest; (3) identifying required skill sets; and (4) requesting a live support. All of these steps are those typically required of a good conversationalist and have little to do with technology per se. The claim goes on to further recite that the first three steps receive and access data and determine skill sets. These are generic computer operations as no particular implementation is recited.

We are not persuaded by Appellants' argument that the claims recite a solution to a problem without requiring a live support agent involved. Reply Br. 5. Any use of a computer in place of a person does as much.

We are not persuaded by Appellants' argument that of the operations are performed within the same user session of the presentation. *Id.* Again, a generic computer performs such generic multitasking.

CONCLUSIONS OF LAW

The rejection of claims 19–22 under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the invention is proper.

The rejection of claims 1–5, 10–15, and 18–22 under 35 U.S.C. § 103(a) as unpatentable over Galvin, Elias, and Kohler is proper.

The rejection of claims 6, 9, 23, and 24 under 35 U.S.C. § 103(a) as unpatentable over Galvin, Elias, and Kohler is improper.

The rejection of claim 25 under 35 U.S.C. § 103(a) as unpatentable over Galvin, Elias, Kohler, and Bauer is proper.

The rejection of claims 7, 8, 16, and 17 under 35 U.S.C. § 103(a) as unpatentable over Galvin, Elias, Kohler, and Bauer is improper.

The rejection of claims 1–25 under 35 U.S.C. § 101 as directed to non-statutory subject matter is proper.

DECISION

The rejection of claims 1–25 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2011).

AFFIRMED